REMARKS/ARGUMENTS

Applicants have received the Office Action dated June 29, 2007, in which the Examiner: 1) rejected claims 1-5 and 12-17 under 35 U.S.C. §103(a) as being unpatentable over Fleek et al (U.S. Pat. No., 5,533,025) (hereinafter *Fleek*) in view of Cook et al (Introduction to Spread Spectrum, IEEE Communication Magazine, Vol. 21, March 1983).

Applicants thank the Examiner for indicating that Claims 8-11 and 18-21 are allowed.

Claims 1-21 as originally filed remain pending in this application. Based upon the arguments presented below, Applicant believes all claims to be in condition for allowance.

Claim Rejections Under 35 U.S.C. §103(a)

In the Office Action, the Examiner rejected claims 1-5, 7 and 12-17 under 35 U.S.C. §103(a) as allegedly obvious over *Fleek* in view of *Cook*. Applicant respectfully traverses these rejections.

The burden of establishing a prima facie case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979). In establishing a prima facie case for obviousness, it is often necessary "to look to interrelated teachings of multiple pates, the effects of demands known to the design community or present in the market place; and the background knowledge possessed by a person having ordinary skill in the art." *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. ___, 127 S.Ct. 1727, 82 USPQ2d 1385, 1396 (2007)(Slip Opinion No. 04-1350 (U.S. April 30, 2007) at 14). Indeed, "the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined." Id. slip opinion at 2 (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)). This analysis should be made explicitly. *Id.* slip opinion at 14 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006))("[R]ejections on obviousness grounds cannot be sustained by mere

conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness").

Additionally, a claim having several elements is *not* proved obvious merely by demonstrating that each of its elements was known in the prior art. *Id.* As such, the obviousness inquiry does not hinge on demonstrating that elements were known in the art. Rather, the obviousness inquiry focuses on whether the claimed subject matter would have been obvious to persons having ordinary skill in the art in view of the demands and practices of the design community at the of filing of the application. See *id.*

Moreover, the Applicant submits that, during the patent examination, the pending claims must be given an interpretation that is reasonable and consistent with the specification. See *In re Prate*, 162 U.S.P.Q. 541, 550-51 (C.C.P.A. 1969); *In re Morris*, 44 U.S.P.Q.2d 1023, 1027-28 (Fed. Cir. 1997); see also M.P.E.P. §2111 (describing the standards for claim interpretation during prosecution). Indeed, the *specification* is "the primary basis for construing the claims." *Philips v AWH Corp.*, 415 F.3d 1303, 1315 (Fed.Cir. 2005). It is usually dispositive. *See id.* Interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. See *In re Cortright*, 49 U.S.P.Q.2d 1464, 1468 (Fed. Cir. 1999); see also M.P.E.P. §2111. That is, recitations of a claim must be read as they would be interpreted by those of ordinary skill in the art. See *Rexnord Corp. v. Laliram Corp.*, 60 U.S.P.Q.2d 1851, 1854 (Fed. Cir. 2001); see also M.P.E.P. §2111.01. In summary, an Examiner, during prosecution, must interpret a claim recitation as one of ordinary skill in the art would reasonably interpret the claim in view of the specification. See *In re American Academy of Science Tech Center*, 70 U.S.P.Q.2d 1827 (Fed. Cir. 2004).

Independent Claim 1 recites, "[a] method of wireless communication that comprises:

receiving a beacon frame that specifies a rotation sequence and a hopping sequence;

missing a subsequent beacon frame; and

using the rotation sequence and hopping sequence received previously to determine a current frequency hopping sequence for a current superframe following the missed beacon frame."

Independent Claim 12 recites, "[a] piconet member device that comprises:

an antenna;

a processor coupled to the antenna to receive and transmit piconet communications; and

a memory coupled to the processor, wherein the memory stores software that configure the processor to:

detect beacon frames in the received piconet communications, wherein the beacon frames delineate piconet superframes; and

obtain from the beacon frames a rotation sequence for frequency hopping sequences."

Although *Fleek* is missing further claim limitations and element relationships, Applicant agrees with the Examiner that *Fleek* fails to teach or suggest "...a rotation sequence...". As a result, *Fleek* also fails to disclose "receiving a beacon frame that specifies a rotation sequence and a hopping sequence", much less "using the rotation sequence and hopping sequence received previously to determine a current frequency hopping sequence for a current superframe following the missed beacon frame" (Claim 1). Fleek further fails to disclose, as a result, "obtain from the beacon frames a rotation sequence for frequency hopping sequences" (Claim 12).

To remedy some of these deficiencies, the Office Action proposes to combine *Cook* with *Fleek*, stating that "it would be obvious to an ordinary skilled in the art at the time the invention was made to use beacon frame to specify a rotation sequence. The motivation or suggestion to do so it so reduce the interference in the transmitted signal" (present Office Action, page 3). Unfortunately, the Examiner has failed to make his *prima facie* case for obviousness for at least the following reasons:

1. Besides *Fleek, Cook* also fails to disclose a rotation sequence

The Examiner kindly points to Figure 10 of *Cook*, as illustrating using rotation sequence. However the plain text of the discussion with respect to Figure 10, as well as the Figure 10 caption, clearly indicates that Fig. 10 is illustrating an example of a frequency hopped signal. This is not a rotation sequence, and is inconsistent with how Applicant has defined and used "rotation sequence". Specifically, paragraph **[0013]** of Applicant's Specification states:

> "To combat interference, the piconets **102, 114 (FIG.1)** may employ different frequency hopping sequences so that they do not use the same frequency bands most of the time. To this end, a given piconet will not use the same hopping sequence indefinitely, but will employ different hopping sequences for different superframes. The hopping sequence to be used for a particular superframe by the devices in that piconet is provided in the beacon sent by the PNC of the piconet. To enable devices that miss one or more beacons to continue their transmission and reception without interruption, as is important for audio/video streaming, the hopping sequences to be used in successive superframes are pre-ordered into a rotation sequence which is also identified in each beacon. More details are given below in connection with **FIG.3.**"

As a result, both *Fleek* and *Cook* fail to disclose a rotation sequence. For at least this reason, a *prima facie* case of obviousness has not been made, the rejection should be withdrawn, and all claims allowed.

2. *Cook* is not "analogous" art

According to the MPEP 2141.01(a):

> "'[I]n order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant"s [sic] endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.' *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) ('A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have

> commended itself to an inventor's attention in considering his problem.'); *Wang Laboratories Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993); and *State Contracting & Eng'g Corp. v. Condotte America, Inc.*, 346 F.3d 1057, 1069, 68 USPQ2d 1481, 1490 (Fed. Cir. 2003) (where the general scope of a reference is outside the pertinent field of endeavor, the reference may be considered analogous art if subject matter disclosed therein is relevant to the particular problem with which the inventor is involved)."

The Examiner kindly indicates that *Cook* is analogous art. However, spread spectrum is classified as class 370 by the Patent Office, as opposed to class 375 for the current classification of the present Application. Moreover, the teaching of *Cook* is not within the field of Applicant's endeavor, and it is also not relevant to the particular problem with which the Applicant is involved. Specifically, *Cook* is concerned with how to prevent or hinder communication of hopping frequency; Applicant wants precisely the opposite (i.e., Applicant wants hopping sequence and rotation sequence communicated), e.g., employing "a method wireless communication that comprises receiving a beacon frame that specifies a rotation sequence and a hopping sequence" (Claim 1) and "a piconet member device that comprises…a memory coupled to the processor, wherein the memory stores software that configure the processor to: detect beacon frames in the received piconet communications, wherein the beacon frames delineate piconet superframes;…" (Claim 12). To reiterate, *Cook* is not analogous art. For at least this reason, a prima facie case of obviousness has not been made, the rejection should be withdrawn, and all claims allowed.

3. No rational motivation to combine *Cook* with *Fleek*.

According to the M.P.E.P., Rev. 6, Sept. 2007, Section 2100-128:

> "The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 **2143** (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The

> Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR,* 550 U.S. at ___ , 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval)."

Moreover, the teaching or suggestion to make the claimed combination must both be found outside of Applicant's disclosure.

The Examiner kindly indicated that the "motivation or suggestion to do so is to reduce the interference in the transmitted signal." (present Office Action, page 3). Unfortunately, because the combined references are missing "a rotation sequence" it would not have been logical to combine them to achieve Applicant's claimed invention. Further because the *Cook* reference was addressing two efforts at keeping frequency hopping information inaccessible to all devices but the transmitter and the intended recipient, and as such information is not broadcast, much less communicated via the superframes, as claimed by Applicant, it strains common sense to combine the *Cook* reference with the *Fleek* reference to attempt to achieve Applicant's claimed invention. No rationale is articulated for why these two particular references should be put together except for a conclusory statement which, unfortunately, is not supported in either reference, and which is missing any underpinnings to support the conclusion that it would be obvious to do so. Lastly, Applicant states in his application that one purpose of the invention is "[t]o combat interference" ([0014]), which implies hindsight on the part of the Examiner, and that by using Applicant's claimed invention, synchronization occurs, even between piconets ([0013]). *Cook* plainly teaches away by stating that "The topic of synchronization is not within the purview of this discussion" (page 16, column 1, lines 12-13).

Thus, the missing claimed limitations and relationships in *Fleek* and *Cook*, taken together or individually, are in sharp contrast to Applicants' claimed invention. Thus, independent Claim 1 and Claim 12 are not obvious over *Fleek* in view of *Cook*. Accordingly, Applicants respectfully request withdrawal of the rejection under Section 103 and allowance of independent Claims 1 and 12, as

well as all claims depending therefrom. Thus, all Claims 1-21 should be indicated as allowed.

In the course of the foregoing discussions, Applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the cited art which have yet to be raised, but which may be raised in the future.

Applicants respectfully request reconsideration and that a timely Notice of Allowance be issued in this case. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Texas Instruments Incorporated's Deposit Account No. 20-0668.

Respectfully submitted,

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